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Autism and Vaccines

by Jennifer Vail

(English 1102)

The Assignment: For this assignment the student had to write an 8-10 page argumentative position paper on a research question of her choice that is related to her major or program of study. She needed to draw from no less than ten (10) different sources which must be both print and non-print sources.

The neurological disease autism has single-handedly baffled the scientific and educational community as well as the general population, yet not without controversy and concern. During the 1990's, the "reported incidences of the disease has roughly tripled" (Kagen and Pozen) to the point that "one out of every 166 children suffer from some form of the disease" (Cowley). It's no surprise that these alarming statistics sparked everyone's interest, concern, and investigation. Yet since the disease was first diagnosed and recorded by a psychiatrist in 1939, little is still known about the exact causes of the disease, although a number of different theories have been offered. Today, the most widely debated theory for the cause of increased autism centers around thimerosal containing-vaccines which contain high levels of the neurotoxin ethyl mercury. After analyzing and reviewing data, I couldn't agree more that thimerosal plays an active role in increasing autism, despite the criticism of others. Therefore, something needs to be done, especially to aid those suffering from a disease which essentially could have been prevented.

Ethyl mercury has been placed in vaccines since they were used as a preservative with only "trace" amounts of the chemical. I don't claim to know the exact inner working of such a complex disease as autism, but after reviewing enough substantial data, it is clear that these vaccines were involved in the disease's epidemic. The best explanation to thimerosal's relationship with autism can be explained by the trigger theory. This explains autism as an innately biological disease in the sense that certain individuals are more prone to acquire the disease for various reasons like having trouble excreting mercury or having some type of neurological abnormality which may predispose them to the disorder. After all, every child given vaccines isn't succumbing to the disease; actually, "roughly 2%" (Glazer). However, the disease can then be set off by an "environmental trigger" such as ethyl mercury, which in return neurologically affects the individual's brain, creating autism. In essence, thimerosal acted as a catalyst for the disease pushing the button on children who carried the bomb of autism. Most research, regardless of whether people are for or against vaccines causing increases in autism, validates this theory that autism is "biologically predisposed and thus triggered" (Glazer). Yet, there are simply too many parallels and too much research historically, biologically, and socially to deny the relationship between thimerosal and autism as anything but significant and causal.

History

Thimerosal and vaccinations have a history which parallels the history of autism and includes many similarities and coincidences which correlate with one another. This alone intrigues individuals to question the relationship between the two as possibly being casual. For example, "the disease was unknown until 1942, when it was identified and diagnosed among eleven children born in the months after thimerosal was first added to baby vaccines in 1931" (Kennedy). In 1970, "only 4 vaccinations were required by the CDC for children and were given up to age 3" (Glazer). Yet the disease still steadily increased until it exploded during the 1990's, coincidentally affecting the same generation

that received maximum amounts of vaccinations at younger ages. These children at 3-6 months of age were receiving 12 different vaccinations often in the span of a year, as well as multiple inoculations at once (Kennedy). Up to “95% of children in this generation were receiving vaccinations “laced” with 50% thimerasol” (Cook) -- the same decade in which autism” increased fifteen fold from prior years causing autism to jump from “one out of every 2,500 to 1 out of every 160 children” (Kennedy) exhibiting some form of autism.

Correlation obviously doesn’t necessarily mean causation; other environmental triggers could aid increases in autism. Similarities alone couldn’t solely blame thimerasol for autism, for that’s just one piece puzzle; without the rest, the picture would remain hazy and easily disputable. However, historically, thimerosal research from various sources reflects a vast capability for thimerasol to cause harm in even minor doses. From the beginning, thimerasol was potent. In 1930, when the creator of thimerasol, Eli Lilly, administered it to “22 patients with terminal meningitis, all of them died within a week” (Kennedy). Soon after, the vaccine manufacturers Pitman-Moore injected dogs with the preservative and found that “half of them became sick,” and that it was “unsatisfactory” (Kennedy). Despite these indications of harm, the vaccine industry continued to use it. In 1967, an applied microbiology study found that “thimerasol killed mice when added to injected vaccines” (Kennedy). Soon after, Eli Lilly’s own study showed that “thimerasol concentrations as low as 1 part per million (one hundred times weaker than the amount in a vaccine) was toxic to tissue cell” (Kennedy). It seemed as if the company creator himself was finally admitting the potency of thimerasol. Still, it continued to be used in a variety of ways, not only in vaccines but in over-the-counter products and antiseptics. In 1977, “ten babies died in a Toronto hospital when a thimerasol antiseptic was dabbed onto their umbilical cords,” the same year that a Russian study concluded that “adults exposed to much lower concentrations of thimerasol than children in the us, suffered brain damage years later” (Kennedy), causing them to ban thimerasol from vaccines on the spot. Finally, the US banned thimerasol on over-the-counter products, yet still used it in vaccines. Ironically, in 1991, the CDC “recommended that newborns be injected with vaccines for hepatitis b within 24 hours of birth and then by the age of two months receive two extra vaccinations for influenza b and diphtheria” (Kennedy). This is the same year that the FDA banned thimerasol from animal vaccines. The US, CDC, FDA, and pharmaceuticals remained adamant about the use of thimerasol in vaccines, despite the odds.

Biology

This data reveals thimerasol’s innate potency shown throughout the years. Yet this harm comes to no surprise, given thimerasol prominent ingredient--ethyl mercury, which is a known neurotoxin and, by this nature, innately affects biology of people. As a result, yet another parallel or relationship between autism and thimerasol is built -- many of children’s autistic symptoms are very similar to that of mercury poisoning. The ethyl mercury used in thimerasol is in liquid form, the same type that is used in many “thermometers, pesticides, and germicides” (Carlson, Phorupus, and Hertelendy 133). When an individual becomes a victim of mercury poisoning, it attacks the “central nervous system causing such symptoms as “cerebral edemas” or seizures, altered speech or inability to speak, respiratory failure, and other neurological failures impairing movement or causing movement” (Carlson, Phorupus, and Hertelendy 133). Similarly, epilepsy occurs commonly in children with autism -- “1/3 of children with autism have seizures of some kind” (Neilsworth and Wolfe 22). Other symptoms of autism often include altered or impaired speech as well as repetitive, uncontrollable motor movement of various kinds. In fact, another “1/3 of children with autism have severe speech impairments” (Glazer). It seems some of autism’s most prominent symptoms are indeed neurological manifestations and results of the mercury that is laced within thimerasol.

Some may say that mercury, although a neurotoxin, may obviously have adverse effect in

extreme cases where large amounts are received, yet in smaller doses, where only “trace” amounts are taken, could not induce such outlandish symptoms or essentially create a disease. However, amounts given to children really aren’t that miniscule. Consider this: “95 % of children receive all their vaccinations and boosters by the age of six months” (Manning), yet infants who received all of their vaccinations were being “injected with levels of ethyl mercury 187 times greater than the EPA’s limit for daily exposure” (Kennedy). It turns out the “trace” amounts of mercury laced within vaccines is not a small amount but actually “equivalent to 50%” (Cook) of a vaccine in thimerasol. Not only are such levels high, but they are also given to children at a critical age of their development within the first year when a child’s bloodbrain barrier isn’t fully developed. This allows even more mercury to pass through to the brain than an adult in higher concentrations, creating an even better environment to breed disease, abnormalities, and ultimately shape children neurologically. Given the true toxicity of mercury within vaccines, it is logical to conclude that they would likely have such above effects, thus again validating a reasonable casual relationship between autism and thimerasol.

Not only has mercury-laced thimerasol used in vaccines been shown to be toxic, but it also has been shown on a biological and cellular level to change cells within the body for the worse. For example, adding thimerasol to T-cells has been shown to “deplete GHS – glutathione by inducing apoptosis” or “cell suicide” (Iwase, Ishibashi, and Ueha). Glutathione helps protect an individual’s immunity and defend the body against outside pollution and toxicities, particularly mercury. Another study concluded that thimerasol “after 14 days, decreased t-cells and b-cells having and adverse effect on the cells mitochondria and immunity” (Haggqvist and Havarinasab 1). Basically, thimerasol caused t-cells within the body to die more rapidly than they normally would. These t-cells are key in keeping cells healthy and protecting immunity. In essence, thimerasol caused the body on a molecular level to decrease its resistance to harm, leaving the body susceptible to the wrath of a much wider range of diseases while almost eliminating the body’s natural way to protect itself against mercury, which children’s bodies already get too much of in the form of vaccines.

In addition, numerous studies have proposed that children who would be predisposed to autism have trouble “excreting mercury from their system” (Cook). This, combined with massive amounts of mercury, could again easily trigger a disease that otherwise might lay dormant. A study done on baby hair reported that children with autism all had “lower amounts of mercury present in their hair than those of children without autism” (Crowes, Grether, and Theis). Mercury present in hair is a sign that the body is excreting it normally and is able to excrete it. So, children with autism who had the same amounts of vaccinations had mercury that was more of less remaining in their brains and circulating throughout their bodies, allowing it to affect their biology longer and with greater concentrations than children who could properly excrete the chemical.

Socially

Lastly, socially speaking, the link between autism and thimerasol has been socially debated for years now and in a quite heated manner. However, for as much debate as has gone on, huge trustworthy organizations such CDC, the FDA, IOM (International Organization for Medicine), and WHO (the World Health Organization) have yet to find a link between autism and thimerasol. In fact, they seem to admit that there is no link between the two, so much so that the IOM stated they wouldn’t do any more on the topic, saying, “instead of spending more money chasing a theoretical link to thimerasol, research dollars should be directed at more promising areas of inquiry” (Glazer). This and other social cues superficially refute an autism-thimerasol link, yet a closer glance suggests too that there really is link between the two. Looking deeper into these and other organizations’ conclusions, one finds many flawed studies and contradictions within them, this fact also suggesting a true link between autism and thimerasol might merely be denied rather than non-existent. If they

really felt no threat from thimerasol, why would they ban it in 2001 from vaccines when it costs them half the price to use thimerasol, then state that they “should get it off the market in the shortest time possible” (Kennedy)? This and other conclusions explain why so many of these trustworthy organizations didn’t quiet the fears of a minority as they usually do.

Recently, a lot of insight has been retrieved and shows various health and vaccine companies actually know just how harmful thimerasol can be, despite their claims. The Simpson Wood transcripts, recently uncovered, reveal the depth of such companies’ denial and secrecy of relevant data. During this conference, head officials including representatives from the CDC, FDA, WHO, and various vaccine companies like GlaxoSmithKline met to discuss vaccines and thimerasol. According to the transcripts, Tom Vesteraen, a CDC epidemiologist, analyzed a database of “100,000 children and concluded that thimerasol actually appeared to be responsible for a dramatic increase in autism,” saying that he was “actually stunned by what he saw” (Kennedy). After Vesteraen’s data was presented, Dr. Bill Weil, a consultant for the American Academy of Pediatrics, told everyone at the conference that “You can play with it all you want, these results are statistically significant” (Kennedy). Apparently, true results from top scientists from the CDC showed a link between thimerasol and autism.

Why, then, do results after the conference still yield very contradicting results? The answer lies in the response of the conference to this appalling data. Further transcripts reveal that, fearing the worst (lawsuits, no one obtaining vaccines), the conference then tried to cover up data. The conference “withheld Tom Vesteran’s findings” and told other scientists and groups that “his data had been lost and could not be replicated” (Kennedy). This is not all; the CDC allowed the National Academy of Sciences to do a study on thimerasol and vaccines, yet when the group met, Marie McCormick (who chaired the IOM safety committee) stated, “the CDC wants us to declare well that these things are pretty safe. We are not ever going to conclude that autism is a true side affect of thimerasol” (Kennedy). This is exactly what happened. Research from IOM states that there “is no casual relationship between autism and thimerasol” (Glazer). All other organizations at this meeting stated similar conclusions. It seems from this conference that much heated debate stems from contradicting conclusions due to secret findings, corporate denial, and overall fear of attained knowledge. Instead of taking responsibility for the findings, companies chose to be dishonest with their results. It is this dishonesty that confuses populations, distorts clarity on results, and essentially drives intense debates.

Counter Arguments

Reviewing of a number of diverse sources, research and, data validates the thimerasol-autism relationship. Yet because of the complexity of the disease and its relatively new history, other theories to its rise are still being explored. One theory states that autism has risen simply because there has been a better understanding of the disease; thus, there has been better diagnosis and that accounts for the rise. However, if this is true, why aren’t there just as many older people with autism as there are younger? Reports show that autism has increased mostly in children, with virtually no more significant reports of increased adult with autism. Other theories claim that autism might be strictly biological or determined by heredity. Yet even biology can be shaped by environmental situations, especially ones in which neurotoxins are directly injected into individuals’ systems. Most of these arguments are speculation at best and don’t contain enough information to fully uphold their claim, especially when confronted with other theories.

Although autism is a “young” disease, knowledge about it has grown rapidly over the years due to its increase and intrigue. Yet numerous parallels between autism and thimerasol, and a wide variety of diverse sources, and virtually all of the information I obtained pin-pointed the increase in autism to thimerasol laced vaccines. In many different contexts, historically, biologically, and

socially, thimerasol has proven to be harmful with research validating not only a correlation between the two, but more importantly, a cause. But the worst part about this devastating conclusion is that it all could have been prevented had people paid attention to historical cues along the way. As representative Dan Burton (Republican) stated, "this epidemic in all probability could have been prevented or at least curtailed had organizations involved not been asleep at the switch" (Kennedy). The best that can be done now is to spend time working with those individuals affected by the disease to further our knowledge as well as aid those who are affected so as to gain even more insight and clarification into this devastating disease's complexities.

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